

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/061475 A2

(51) International Patent Classification⁷: **C07D 307/00**

(21) International Application Number:
PCT/JP2004/019454

(22) International Filing Date:
17 December 2004 (17.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003907110 22 December 2003 (22.12.2003) AU

(71) Applicant (for all designated States except US): **FUJISAWA PHARMACEUTICAL CO., LTD.** [JP/JP]; 4-7, Doshomachi 3-chome, Chuo-ku, Osaka-shi, Osaka 5418514 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HATTORI, Kouji** [JP/JP]; c/o Fujisawa Pharmaceutical Co., Ltd., 4-7, Doshomachi 3-chome, Chuo-ku, Osaka-shi, Osaka 5418514 (JP). **FUJII, Naoaki** [JP/US]; 103, Manor Drive, South San Francisco, CA 94080 (US). **TANAKA, Akira** [JP/JP]; c/o Fujisawa Pharmaceutical Co., Ltd., 4-7, Doshomachi 3-chome, Chuo-ku, Osaka-shi, Osaka 5418514 (JP). **WASHIZUKA, Kenichi** [JP/JP]; c/o Fujisawa Pharmaceutical Co., Ltd., 4-7, Doshomachi 3-chome, Chuo-ku, Osaka-shi, Osaka 5418514 (JP). **SAKURAI, Minoru** [JP/JP]; c/o Fujisawa Pharmaceutical Co., Ltd., 4-7, Doshomachi 3-chome, Chuo-ku, Osaka-shi, Osaka 5418514 (JP). **KURODA, Satoru** [JP/JP]; c/o Fujisawa Pharmaceutical Co., Ltd., 4-7, Doshomachi 3-chome, Chuo-ku, Osaka-shi, Osaka 5418514 (JP). **TODA,**

Susumu [JP/JP]; c/o Fujisawa Pharmaceutical Co., Ltd., 4-7, Doshomachi 3-chome, Chuo-ku, Osaka-shi, Osaka 5418514 (JP). **NAKAJIMA, Yutaka** [JP/JP]; c/o Fujisawa Pharmaceutical Co., Ltd., 4-7, Doshomachi 3-chome, Chuo-ku, Osaka-shi, Osaka 5418514 (JP).

(74) Agents: **UEKI, Kyuichi** et al.; Fujita-Toyobo Building 9th Floor, 1-16, Dojima 2-chome, Kita-ku, Osaka-shi, Osaka 5300003 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

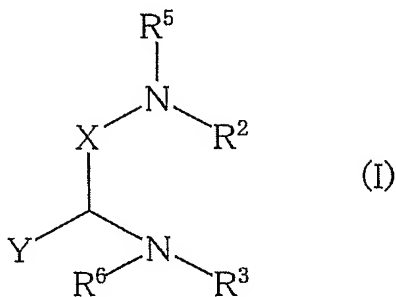
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ORNITHINE DERIVATIVES AS PROSTAGLANDIN E₂ AGONISTS OR ANTAGONISTS



(57) Abstract: Ornithine derivatives of the formula (I): wherein X is -CO- or -(CH₂)_k- (wherein k is 1, 2 or 3); Y is Z-(CH₂)_n-, and the like; {wherein Z is R¹-CO-NR⁴-, and the like, (wherein R¹ is aryl, and the like; and R⁴ is hydrogen, or lower alkyl); and n is 1, 2, 3, 4, 5 or 6}; R² is aryl-(lower alkyl), and the like; R³ is -Q-R⁷, [wherein Q is -CO- or -SO₂-, R⁷ is heterocyclyl], and the like; and R⁵ and R⁶ are independently hydrogen or lower alkyl; or a pharmaceutically acceptable salt thereof, which are useful as medicament.